

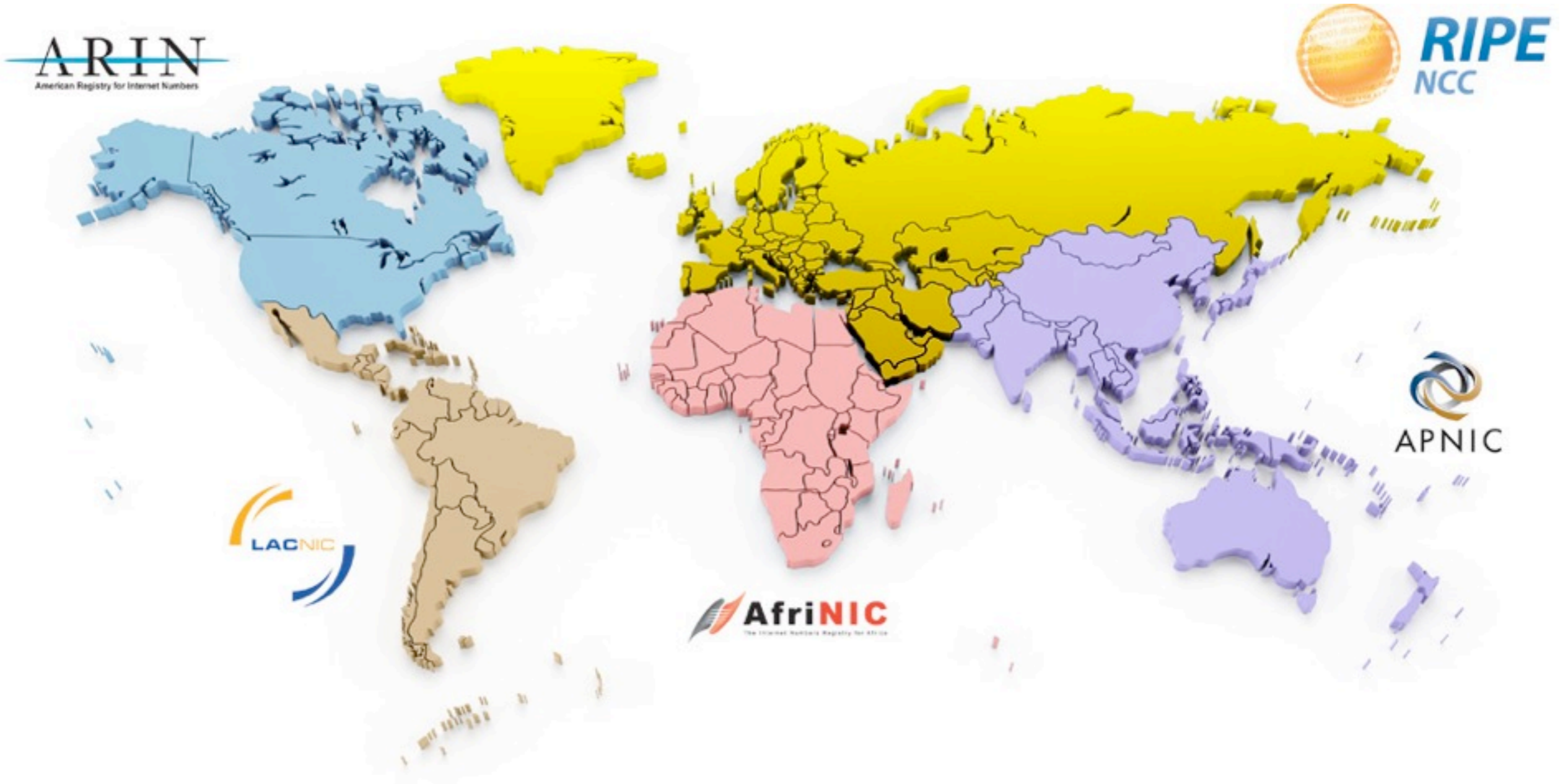
Moving Towards IPv6

Liberty Global Technology Summit

Marco Hogewoning
Ferenc Csorba
RIPE NCC



The Five RIRs



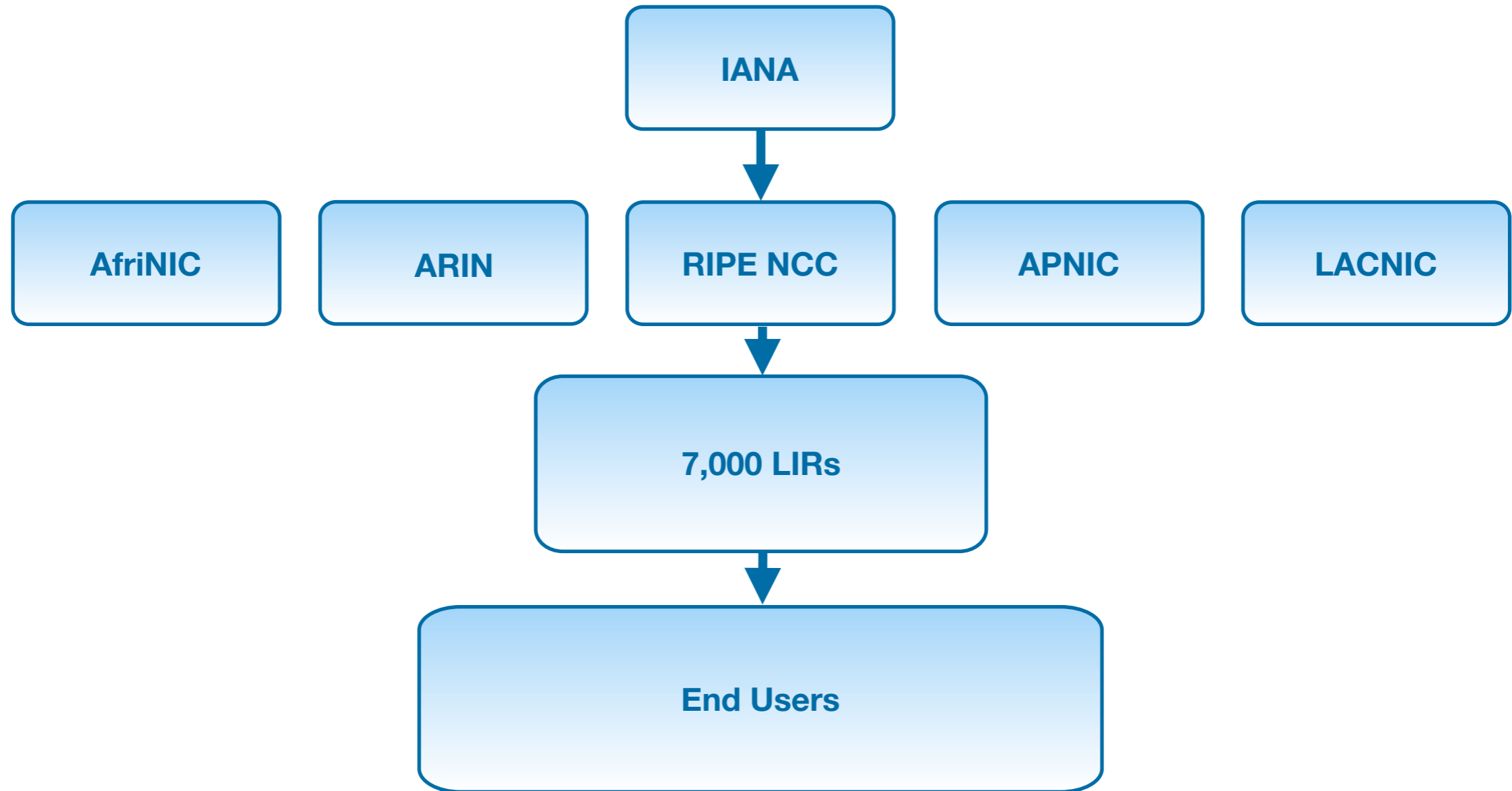
RIPE NCC

- Service region: Europe, Middle East and parts of Central Asia
- Supports coordination of Internet operations
- Not-for-profit membership organisation
- Over 7,000 members
- Neutral, impartial, open and transparent
- **RIPE**: self regulated, open to everyone

Activities

- Distributing and managing number resources
- Routing Registry
- Statistics and measurements
- Education
- K-root
- ENUM root zone

IP Address Distribution



The Goals



Registration



Conservation

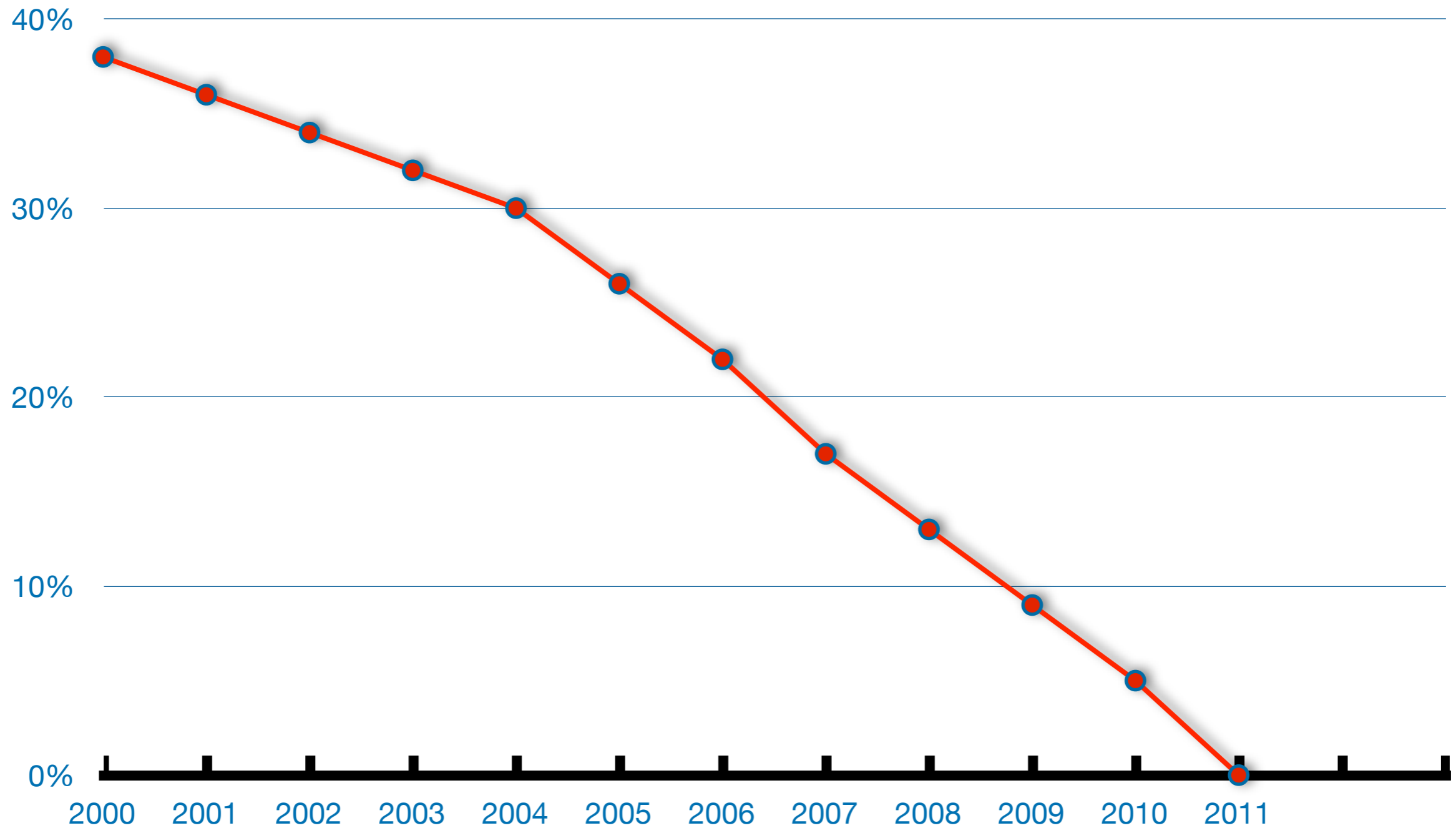


Aggregation

The Problem

4,294,967,296

IANA IPv4 Pool



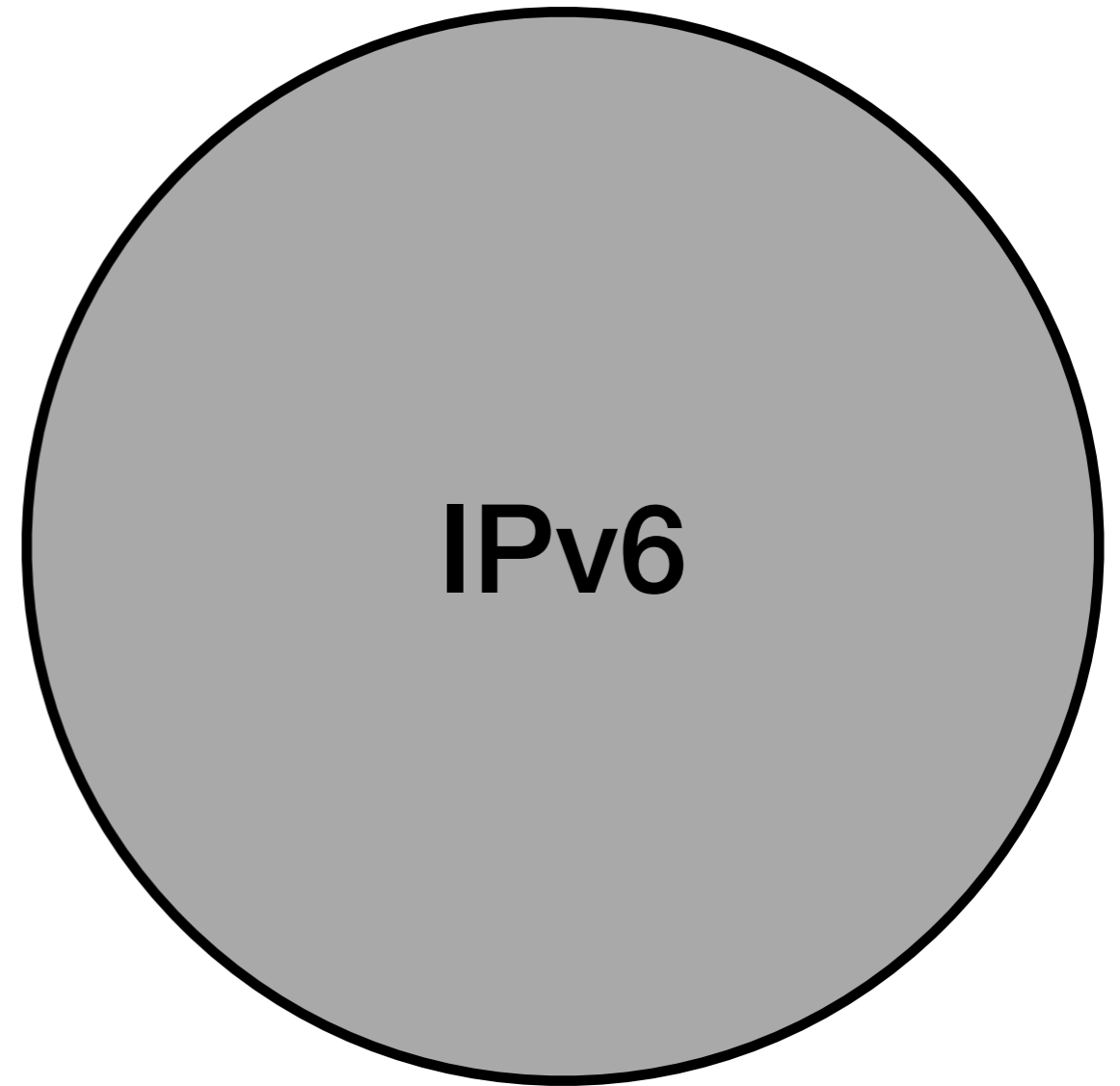
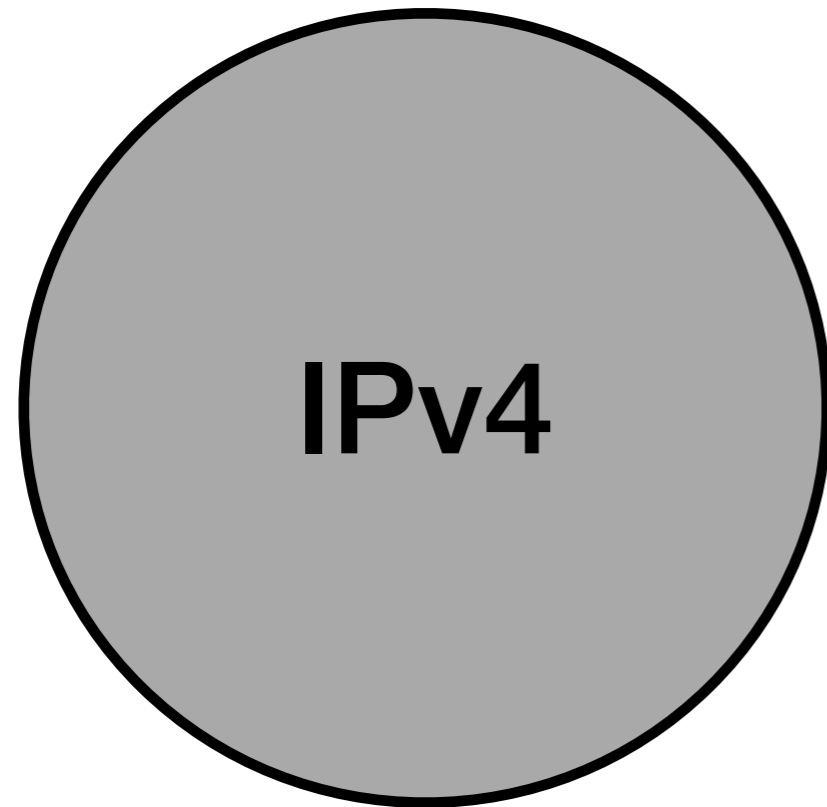
The Solution

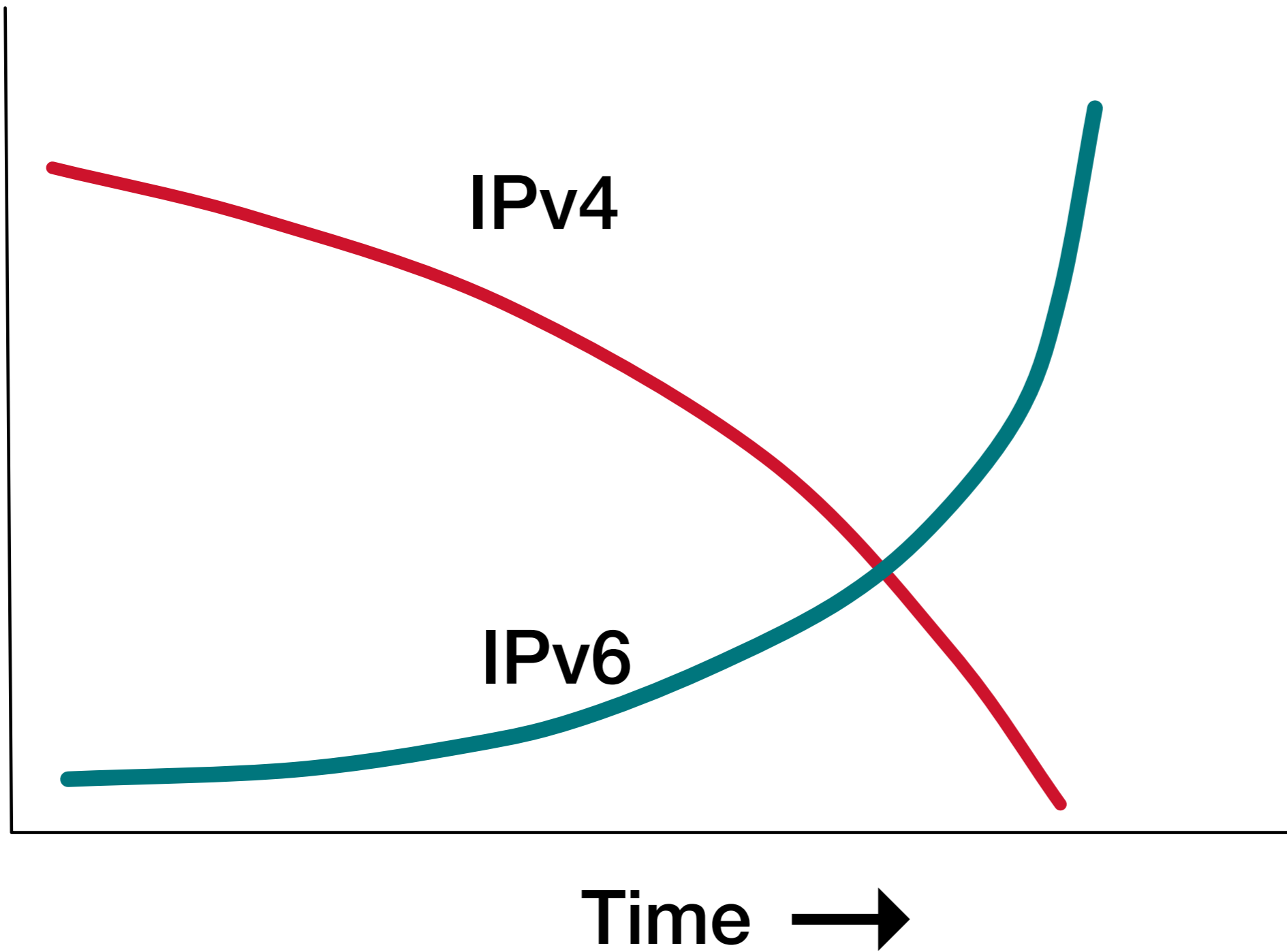
Internet Protocol Version 6 (IPv6)

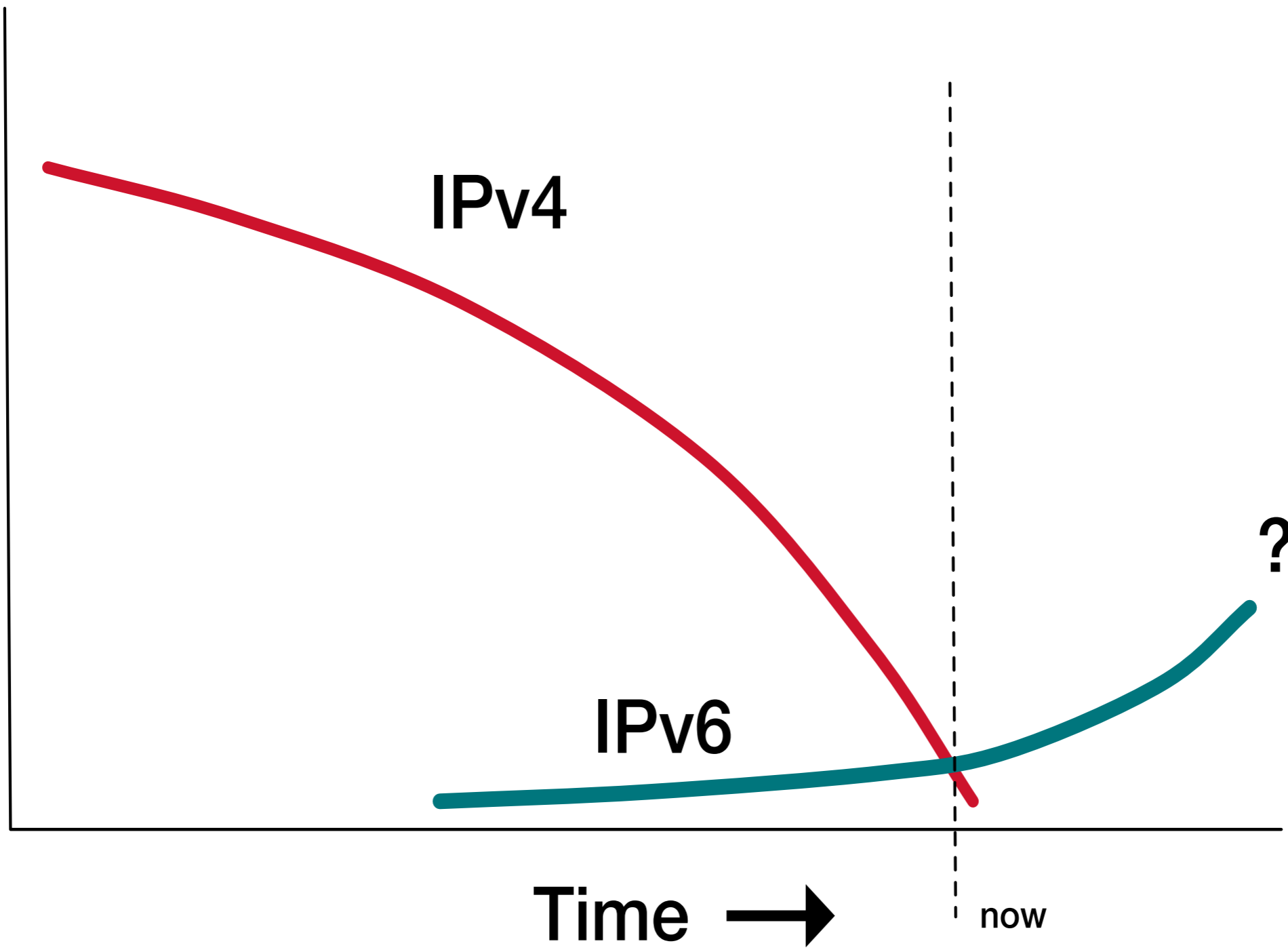
- Uses 128 bit address space
- Allows for far more than 4 billion addresses
- Designed in 1992
- Not backwards compatible with IPv4

340,282,366,920,938,463,463,374,607,431,768,211,456

The Challenge







Challenges

- Technology has to be ready
- Requires training
- Requires a different view on the product

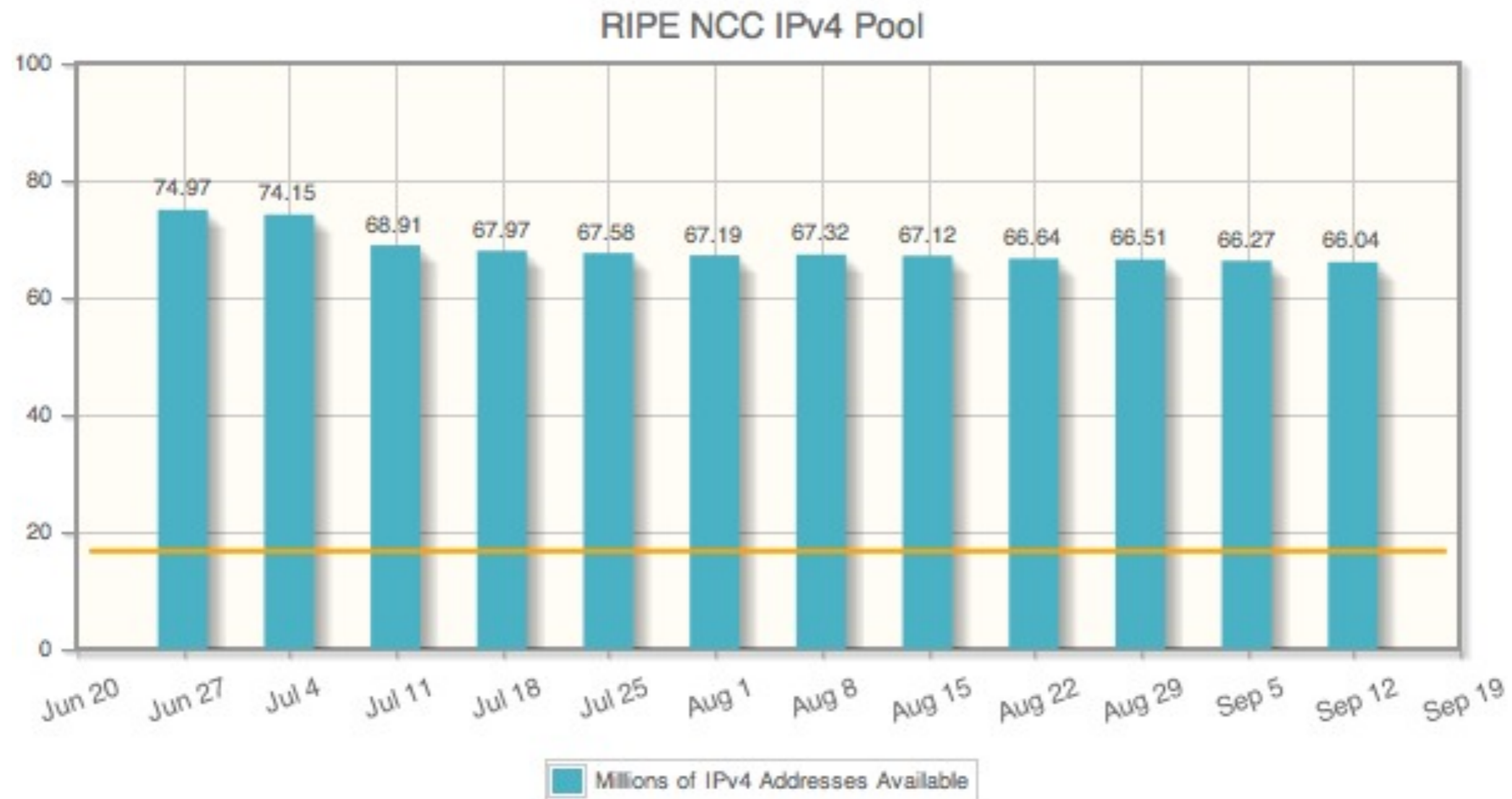
The Alternatives

Network Address Translation

- Extends the capacity of the IPv4 address space by sharing an IPv4 address between clients
- Fairly common technology, used everywhere
- Breaks the end to end connectivity model
- **It limits development!**
- You are probably going to need it in some form

The Statistics

How Many Addresses Left?

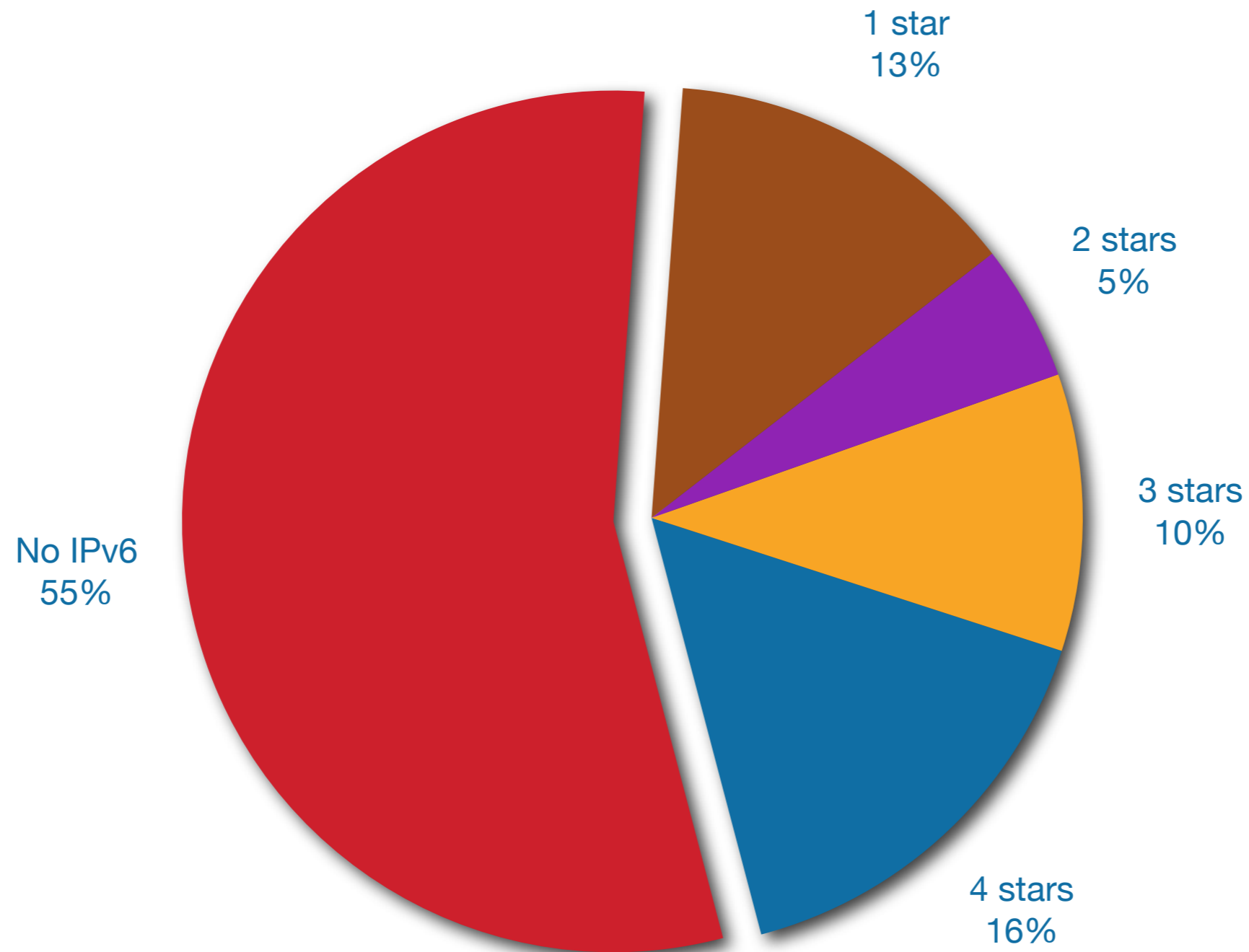


<http://www.ripe.net/internet-coordination/ipv4-exhaustion/ipv4-available-pool-graph>

IPv6 RIPEness

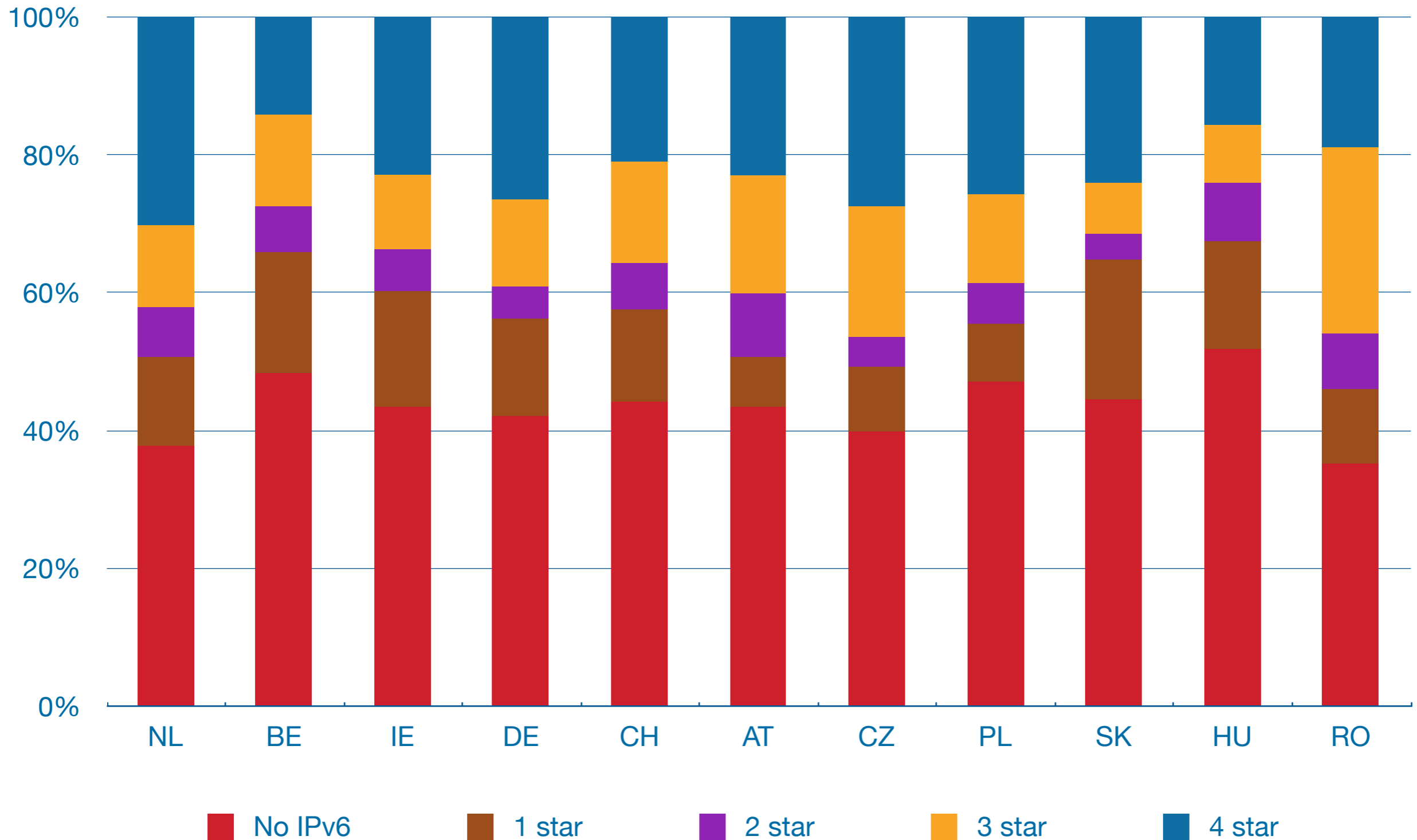
- Rating system designed to monitor progress in the deployment of IPv6
- Four “stars” to earn, based on the level of deployment:
 - First star for getting an IPv6 allocation
 - Subsequent stars awarded for visibility, route objects and reverse DNS
- Only lists RIPE NCC members

Total Membership (7732 LIRs)



(1 September 2011)

Liberty Global Markets



Questions?

